

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-018718**Date Inspected:** 10-Dec-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1100**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site**CWI Name:** John Pagliero**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** OBG Section**Summary of Items Observed:**

This Quality Assurance (QA) Inspector, Craig Hager was on site at the job site between the times noted above.

This QA Inspector was on site to randomly observe Quality Control (QC) personnel perform Non-Destructive Testing (NDT) and to monitor American Bridge/Fluor (ABF) welding operations.

The following observations were made:

1) At weld joint 8E/9E LS-4 inside the OBG section: ABF welding personnel Xiao Jian Wan (#9677) was in the process of performing production welding using the Shielded Metal Arc Welding (SMAW) process. QC Inspector John Pagliero was monitoring the work.

2) At weld joint 8E/9E-C1 and 2, inside the OBG section: ABF welding personnel had started welding the previous shift but welding was not being performed at this location this date.

3) At weld joint 7E/8E – D-1 & 2, outside the OBG section: ABF welding personnel had completed the back gouging and the preheating equipment had been set up.

4) At weld joint 6E/7E – B, inside the OBG section: QC Inspector Jesus Cayabyab was observed performing Ultrasonic Testing (UT).

At weld joint 6E/7E – B, inside the OBG section this QA Inspector observed QC Inspector Jesus Cayabyab was performing Ultrasonic Testing (UT). This QA Inspector asked QC Inspector Jesus Cayabyab the status of the UT

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## WELDING INSPECTION REPORT

( Continued Page 2 of 3 )

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inspection and was informed he was trying to verify a defect that is a class A indication with a +6db rating. QC Inspector Jesus Cayabyab informed this QA Inspector that QA Inspector Bert Madison had observed the defect yesterday but that he could only obtain a rating of +11 db, which would be a class D indication and acceptable. This QA Inspector observed what appeared to be a sound beam index point marked on the base material adjacent to the weld and confirmed with QC Inspector Jesus Cayabyab that QA Inspector Bert Madison had marked this location for inspection. This QA Inspector observed QC Inspector Jesus Cayabyab scan the area and verbally verified the inspection parameters were in accordance with the requirements. After several minutes QC Inspector Jesus Cayabyab again informed this QA Inspector the indication rating was +11 db's a class D indication and acceptable. This QA Inspector asked if he could scan the area using QC Inspectors' Jesus Cayabyab equipment. After this QA Inspector started scanning the area it was observed the couplant being used under the transducer appeared to feel like it had grit and/or dirt in the couplant. This QA Inspector informed QC Inspector Jesus Cayabyab of this condition and suggested the area be cleaned, couplant be reapplied and scanned. This QA Inspector cleaned the area with a wire brush, wiped the area with a rag, reapplied couplant and began to scan the area. This QA Inspector was now able to obtain a rating of +7bd's which is a class A indication and rejected. This QA Inspector scanned also scanned the opposite side of the weld and was able to verify the location of the defect. This QA Inspector suggested the scanning area of the base material be cleaned with a wire brush and the entire weld be re-inspected. The defect rating obtained by this QA Inspector, using QC Inspector Jesus Cayabyab equipment was within one (1) db of the defect noted by QA Inspector Bert Madison.

At weld joint 8E/9E LS-4 inside the OBG section this QA Inspector observed ABF welding personnel Xiao Jian Wan (#9677) was waiting for QC Inspector John Pagliero to complete the Magnetic Particle Testing (MT) being performed on the back gouged section of the weld. This QA Inspector randomly observed the MT inspection and was informed by QC Inspector John Pagliero upon completion the weld would require addition grinding to remove a MT indication the full length of the weld. This QA Inspector visually observed what appeared to be a MT indication for the full length of the weld. This QA Inspector randomly observed as ABF welding personnel Xiao Jian Wan (#9677) and QC Inspector John Pagliero worked together grinding and re-inspecting until QC Inspector John Pagliero informed this QA Inspector the back gouge was acceptable and free of any MT indications. This QA Inspector performed a random visual verification and the work appeared to comply with the contract requirements. This QA Inspector observed as QC Inspector John Pagliero verified the preheat was greater than 100° C using an electric temperature gauge and the welding parameters were as follows; 125 amperes using a 3.2 mm diameter E9018H4R electrode. The work observed by this QA Inspector appeared to comply with ABF-WPS-D15-1012-3.

At weld joint 8E/9E-C1 and 2, inside the OBG section this QA Inspector observed ABF welding personnel had started welding the previous shift but welding was not being performed at this location this date.

At weld joint 7E/8E – D-1 & 2, inside the OBG section this QA Inspector observed what appeared to be steam raising from the weld area. Please note the inside area was covered with water due to rains this date. This QA Inspector confirmed with QC Inspector Mike Johnson and ABF welding personnel Danny Ieraci (#3232) that welding was not being performed on the outside section of the weld and that the steam was being caused by preheating equipment.

### Summary of Conversations:

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## WELDING INSPECTION REPORT

( Continued Page 3 of 3 )

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As noted above.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy (510) 385-5910, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Hager,Craig
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Quality Assurance Inspector
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<b>Reviewed By:</b>	Levell,Bill
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QA Reviewer
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